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1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE NORTHERN DISTRICT OF
3 MISSISSIPPI, WESTERN DIVISION
4
5 FRED BECK, ET AL.,)
6 Plaintiffs,) No. 3:03CV60-P-D
7 vs.)
8 KOPPERS, INC., ET AL.,)
9 Defendants.)
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14
15 JAMES DAHLGREN, M.D.
16 Santa Monica, California
17 Tuesday, May 10, 2005
18 Volume IV
19
20
21
22 Reported by:
23 DIANA JANNIERE
24 CSR NO. 10034
25 L.A. JOB No. 910792

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1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE NORTHERN DISTRICT OF
3 MISSISSIPPI, WESTERN DIVISION
4
5 FRED BECK, ET AL.,)
6 Plaintiffs,) No. 3:03CV60-P-D
7 vs.)
8 KOPPERS, INC., ET AL.,)
9 Defendants.)
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14
15 DEPOSITION of JAMES DAHLGREN, M.D., Volume
16 IV, taken on behalf of Defendants at 1700 Ocean Avenue,
17 Santa Monica, California, beginning at 9:00 a.m., and
18 ending at 5:00 p.m., Tuesday, May 10, 2005, before Diana
19 Janniere, Certified Shorthand Reporter No. 10034.
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<p>1 EXHIBITS (Continued):</p> <p>2 DEFENDANTS' PAGE</p> <p>3 140 Human Health Effects of Dioxins 810</p> <p>4 141 Polychlorinated Biphenyls, Cytochrome</p> <p>5 P450 1A1, and Breast Cancer Risk in</p> <p>6 the Nurses' Health Study 814</p> <p>7 142 Diagnosis of Breast Cancer Clinical</p> <p>8 and Prediclinical 818</p> <p>9 143 Short Communication 819</p> <p>10 144 Cancer Mortality among Workers in</p> <p>11 Chemical Plant Contaminated with</p> <p>12 Dioxin 822</p> <p>13 145 The Role of Aromatic Hydrocarbons 827</p> <p>14 146 Adipose Concentrations of</p> <p>15 Organochlorine 830</p> <p>16 147 Environmental exposure to PCB's 836</p> <p>17 148 Risk of Premenopausal Breast Cancer 838</p> <p>18 149 Deregulation of Cell Proliferation</p> <p>19 by Polycyclic Aromatic Hydrocarbons 843</p> <p>20 150 Dioxin exposure and Public Health</p> <p>21 in Chapaevsk, Russia 849</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p>648</p>	<p>1 Q Can you give me a range or an estimate?</p> <p>2 A I have been working on this case for several</p> <p>3 years. I don't have that in my memory.</p> <p>4 Q Do you know how much you or entities billed</p> <p>5 into the creosote case so far?</p> <p>6 A I don't know.</p> <p>7 Q How much of these entities owned by you have</p> <p>8 been paid on these creosote cases?</p> <p>9 A I don't know.</p> <p>10 Q Now, as we discussed previously, you mentioned</p> <p>11 dioxin levels of the blood of residents of Carver</p> <p>12 Circle?</p> <p>13 A Yes.</p> <p>14 Q It is an ongoing --</p> <p>15 A Yes. That is based on PAH analysis which, I</p> <p>16 think, I indicated.</p> <p>17 Q It depends on the soils and house dust</p> <p>18 indicated that was collected by others?</p> <p>19 A Yes.</p> <p>20 Q Do you have reason to believe that the blood</p> <p>21 level of dioxin in the people from the Carver City</p> <p>22 neighborhood were higher in the past than they are now?</p> <p>23 A I don't know. I mean, you are talking about</p> <p>24 higher for dioxin levels?</p> <p>25 Q Yes.</p> <p>650</p>
<p>1 Santa Monica, California, Tuesday, May 10, 2005</p> <p>2 9:00 A.M. - 5:00 P.M.</p> <p>3</p> <p>4 JAMES DAHLGREN, M.D.,</p> <p>5 having been duly sworn, testified as follows:</p> <p>6</p> <p>7 FURTHER EXAMINATION</p> <p>8 BY MR. HOPP:</p> <p>9 Q Back on the record. Doctor, you remember that</p> <p>10 you are under oath?</p> <p>11 A Yes.</p> <p>12 Q Dr. Dahlgren, what is your hourly rate in your</p> <p>13 work with creosote?</p> <p>14 A 465 an hour.</p> <p>15 Q Do you bill for time devoted by your staff?</p> <p>16 A Yes.</p> <p>17 Q What is your staff rates? What is a range or</p> <p>18 average rate for your staff?</p> <p>19 A It varies depending on what it is that they are</p> <p>20 doing.</p> <p>21 Q Can you give me a range?</p> <p>22 A No, I don't have that in my memory.</p> <p>23 Q How much time did you do in your work for</p> <p>24 creosote cases from inception until now?</p> <p>25 A I don't know.</p> <p>649</p>	<p>1 A Well, there are various reasons why they may</p> <p>2 have been higher at certain times, at least on an acute</p> <p>3 basis when they were burning the treated wood.</p> <p>4 During that time, they probably would have been</p> <p>5 higher because of the dioxin being generated by that</p> <p>6 activity, more than presumably today, they are not</p> <p>7 treating any treated wood as an energy source. So that</p> <p>8 would make a difference.</p> <p>9 So based on that, one would expect the dioxins</p> <p>10 to have been higher in years past.</p> <p>11 Q Would that have had been an acute basis or</p> <p>12 during the years which they were breathing treated wood?</p> <p>13 A Chronic during the years when they were burning</p> <p>14 treated wood.</p> <p>15 Q Do you know how much higher the dioxin blood</p> <p>16 levels would have been during the years which they were</p> <p>17 burning treated wood?</p> <p>18 A No, I don't think we have any way of making an</p> <p>19 estimate about that. All we can say is that it would</p> <p>20 have been higher.</p> <p>21 Q Would it be safe to assume then that, that the</p> <p>22 dioxin blood levels in the people in the Carver Circle</p> <p>23 neighborhood would have begun to decrease when the plant</p> <p>24 stopped burning treated wood?</p> <p>25 A Yes. I think they would have experienced a</p> <p>651</p>

1 decrease in their concentrations over time. I mean, the
2 half-life of the dioxins is very long in the body. So
3 it wouldn't have been a very rapid change.

4 But if the dose is significantly higher and you
5 reduce that dose, it will be reflected over time in the
6 blood level.

7 Q Do you have any way of estimating or using
8 literature to provide a reference for, by what rate the
9 level of dioxin in the blood in Carver Circle would have
10 decreased over time after the plant stopped burning
11 treated wood?

12 A Well, the half-life of the various dioxins is
13 variable. The lower the chlorination, the shorter the
14 half-life. The more chlorine atoms attach, the longer
15 the half-life in general.

16 TCDD, which is the most toxic one, as we
17 discussed before, has a half-life of about seven years
18 based on the studies that have been published.

19 There is a range. I mean, some people are a
20 little slower. Some people are a little faster, but on
21 average, it is seven years half-life.

22 That means if your exposure stops completely or
23 is reduced to background, let's say, you will experience
24 a 50 percent decline over a period of seven years in
25 TCDD.

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1 OCDD will probably be longer. It's half-life
2 is probably 12 years. So it would take longer for that
3 one to come down.

4 And the hepta and the hexadioxins also have a
5 very long half-life. Probably longer than TCDD, but
6 less than OCDD.

7 Q Okay. I'm sorry. I know you said this before,
8 but you gave me some way of -- of tagging half-lives to
9 chlorine atoms.

10 Can you just repeat that? I mean, what
11 dictates that?

12 A The more -- the more chlorine atoms, the -- the
13 longer the half-life. And the slower it is excreted
14 into the body in general -- and that holds for the
15 furans and the PCBs as well.

16 Q Have you done any investigations of exposures
17 of the Penco Hosiery plant in Grenada?

18 A Exposure estimate?

19 Q Um-hmm.

20 A No. My understanding is that the other
21 potential sources of pollution in the neighborhood were
22 examined by other experts. I did not specifically focus
23 on other sources.

24 The only other source that has been mentioned
25 to me as being a source of some contamination, at least

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1 in the ground water is the Heat Craft plant. I have not
2 heard any discussion about the hosiery plant.

3 Q Yeah. I am not talking about the hosiery plant
4 being in the neighborhood. I believe the -- Sherrie
5 Barnes and some other plaintiffs in this case actually
6 worked in the hosiery plant.

7 A Yes, I believe that's correct.

8 Q Did you do any investigation of what they might
9 have been exposed to at work?

10 A Well, the history that was taken by Dr. Sawyer
11 specifically indicated that they did not have any
12 chemicals that they were aware of at that plant while
13 they were working there. I mean, that was the family
14 given history for Sherrie Barnes.

15 Q Sure. And you were relying on Dr. Sawyer for
16 that piece of your analysis to the extent that is even
17 part of your analysis; is that correct?

18 A Yes. In terms of looking for confounders or
19 additional risk factors, that did not appear to be one.

20 From what I know about the hosiery
21 manufacturing business, it is mainly a garment-type
22 operation where they are making garments of clothing.
23 And the hazards that might occur in such a setting would
24 be lint if it was cotton that they were using. It could
25 be some exposure.

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1 I have studied garment workers in the past, and
2 usually there is no measurable effect in work in the
3 garment manufacturing in terms of lung disease or cancer
4 risk or any of these other issues. So as far as I know,
5 there would be no confounding from that source.

6 Q Well, so if they were actually making nylon
7 hosiery, do you think there might be any exposures to
8 any -- whatever chemical is going in to making nylon?

9 A If you were at a hosiery plant, you are
10 probably not making nylon. You are buying nylon from a
11 chemical company that makes the nylon. You are not
12 making --

13 (Telephonic interruption.)

14 THE WITNESS: -- nylon material that would be
15 present --

16 THE REPORTER: I'm sorry.

17 THE WITNESS: -- in the setting there.

18 THE REPORTER: Is that my phone or your phone?

19 THE WITNESS: No. It was noisy. I think that
20 was the first couple of notes of Unsolved Mysteries.

21 THE REPORTER: It's mine.

22 (Whereupon, the record was read as
23 follows:

24 "Q Well, so if they were
25 Actually making nylon hosiery, do

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1 You think there might be any
2 Exposures to any -- whatever
3 Chemical is going in to making
4 Nylon?")
5 THE WITNESS: Nylon manufacturing is not done
6 by very many companies. In fact, as I understand it,
7 nylon has become less and less popular. They use
8 synthetic fibers, but they would make it into the cloth
9 somewhere else. They would not be making nylon at a
10 hosiery plant there.
11 BY MR. HOPP:
12 Q They would dye it somewhere else, die the
13 fabric, or is that done at a hosiery plant?
14 A It depends. Most likely they would buy the
15 fabric already dyed in various colors. That is the
16 normal clothing manufacturing practice.
17 They don't -- if you go to a -- any of the
18 garment manufacturing plants in Los Angeles, for
19 example, they don't do dying in those plants. They buy
20 the fabric dyed somewhere else.
21 Q Let's talk specifically about Sherrie Barnes.
22 What was her body mass index at the time that
23 she contracted cancer?
24 A Well, let's see. We need to look at the file.
25 I think she was 190 pounds, but I forget her height.

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1 Q While you are looking, how does one calculate
2 body mass index?
3 A Let's see. I think it is the weight in
4 kilograms divided by the height in meters squared.
5 Something like that.
6 Q Okay.
7 A She was diagnosed June 15, 1997. I have to
8 find her weight to see if anybody bothered to write it
9 down. Let's see. She was 202 pounds on June 20th, 1997
10 and her height was 66 inches.
11 Q So based on that, one could calculate her body
12 mass index?
13 A Yes. She had -- 2.06 was her height in meters
14 squared, in kilograms was about 90. So it would be --
15 it was around 40, 45.
16 Q 40 to 45 was her body mass index?
17 A That would be in that range.
18 Q Did her body mass index change much during her
19 adult life?
20 A I don't have that information. I mean, I think
21 that she lost some weight. Let's see.
22 No, she didn't lose any weight. Between the
23 time she was diagnosed and the time that she died, she
24 stayed around -- around the 200-pound range. I think
25 the last weight that was recorded was 190.

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1 Q She was in her mid to late 30's when she passed
2 away?
3 A 35, I believe when she died.
4 Q She died in '98?
5 A She died in September of '98.
6 Q She was born in September of '62?
7 A That's right. So she was 36, just -- just 36
8 or maybe she was a few days shy of 36 when she passed
9 away. She was still in the 35th year.
10 Q What was her age at menarche?
11 A Menarche. Menarche sometimes said -- I don't
12 know if that information was obtained. It is on my
13 questionnaire. So let me try to find that. The
14 daughter may not have known.
15 12. It was written down. So she had menarche
16 at age 12.
17 Q Would that be considered early?
18 A No, it is not. It is smack dab in the middle
19 of normal range.
20 Q What was her age at her first full-term
21 pregnancy?
22 A I guess, I have to find out the age of her
23 daughter and figure that out.
24 Q Well, she had the one daughter, Kenesha. Was
25 that her only one child? Do you know?

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1 A Well, I have to find my report.
2 Q Just for your reference, Doctor, I am handing
3 you Exhibit 34 and 35 which were previously marked.
4 This is your narrative report and then the
5 questionnaire from Kenesha Barnes.
6 A Okay. 22 was the daughter's age, so 22 from
7 35, 23. So she was 23 when she had her daughter.
8 Q That is when she had Kenesha. Do you know
9 whether she had a full-term pregnancy before Kenesha?
10 A Well, that's a possibility. Number of
11 pregnancies: One. Number of live births: One. So she
12 only had one pregnancy and one birth.
13 Q Do you know how many months she lactated?
14 A No. I don't think we obtained the history as
15 to whether she breast fed or not.
16 Q Was she in menopause at the time that she was
17 diagnosed with breast cancer?
18 A She stopped menstruating when they started the
19 chemotherapy, not before. She stopped menstruating at
20 34 with the chemo.
21 Q So we assume that she was not naturally in
22 menopause at that time?
23 A Correct.
24 Q I think we established it last time, just to
25 double check today, it is accurate to say that we do not

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1 know whether she had ever used hormonal contraceptives?
 2 A No. The only medicine she took was high blood
 3 pressure medicine before the -- before the diagnosis was
 4 made.
 5 Q Did her questionnaire specifically ask whether
 6 she had ever used hormonal contraceptives?
 7 A No. It simply said, what medicines were you
 8 taking, and we didn't ask -- I don't remember asking
 9 specifically about her form of contraception prior to
 10 the -- in the histories of Sawyer, myself, and Wolfson.
 11 I did not see any mention of contraceptive use.
 12 Q And the history was given by her daughter. And
 13 so, I mean, was it reasonable to assume that her
 14 daughter may not have that information whether or not
 15 her mother used --
 16 A Well, it is not just her daughter, but her
 17 mother and her sisters were interviewed and none of them
 18 were aware. It is most likely that she was on birth
 19 control pills, one of those family members would have
 20 known it.
 21 Q But none of them mentioned it; correct?
 22 A Correct. Thank you. And I believe it would
 23 have been asked by one or all of us who interviewed the
 24 family.
 25 Q Okay. Do you know if she ever used hormone

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1 replacement therapy for any purpose?
 2 A As I said, there was no history of any other
 3 medication use.
 4 Q Do you agree that a high body mass index is a
 5 risk factor for breast cancer?
 6 A Well, I am trying to remember if that has been
 7 mentioned as a risk factor. I don't -- let me look in
 8 my -- I think one of these references does a review of
 9 the various risk factors. Elm Rich. Elm Rich is a
 10 review article on risk factors on cancer -- breast
 11 cancer.
 12 Q Just for the purpose of the question, I would
 13 be happy if you could read off your screen what the risk
 14 factors that are mentioned in Elm Rich?
 15 A I will do that when it comes up here. This is
 16 1983, but I think it covers at least some of the more
 17 popular issues. They studied 1,185 women with breast
 18 cancer and compared the 3,227 controls. The risk of
 19 breast cancer increased with increasing age of first
 20 birth. This effect was not accounted for by parity.
 21 Q What is parity?
 22 A The number of pregnancies. An early age of
 23 first birth appeared to reduce the risk relative to no
 24 pregnancy; whereas, a late age first birth was
 25 associated with a higher risk. Relative risk decreased

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1 with increasing obesity among premenopausal women. So
 2 in this study obesity was protective.
 3 Q In premenopausal women?
 4 A In premenopausal women, that is what I just
 5 read.
 6 Q Okay.
 7 A The risk was higher among those who were obese,
 8 but there was no evidence of a trend with increasing
 9 body mass index.
 10 Q I'm sorry. That seemed to be contradictory,
 11 that last sentence?
 12 A I am just reading from his abstract.
 13 Q Okay.
 14 A We can discuss it if you want, but anyway let
 15 me keep going.
 16 Q Okay.
 17 A Risk did not vary with the risk of abortion.
 18 Risk was lower among postmenopausal women than the
 19 premenopausal women of the same age. And increased with
 20 increasing age of menopause, bilateral oophorectomy --
 21 let me spell that, o-o-p-h-o-r -- reduced the risk more
 22 than hysterectomy alone; the positive history of benign
 23 breast disease; a positive family history of breast
 24 cancer; Jewish religion; 12 or more years of education
 25 was each independently associated with increased breast

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1 cancer.
 2 Now, in terms of that contradiction about
 3 obesity, we need to go into more detail. Among
 4 premenopausal women, the relative risk estimate
 5 decreased as body mass index increased and the trend was
 6 that statistically significant. Among postmenopausal
 7 woman the opposite effect was evident relative to the
 8 BMI of under 30.
 9 The relative risk estimate was 1.5, with
 10 confidence interval of 1.2, 1.9, and that was for
 11 postmenopausal woman and that was the body mass index
 12 was under 30, the relative risk was higher.
 13 Q In postmenopausal?
 14 A Postmenopausal does not apply to our patient
 15 who was not postmenopausal.
 16 With a body mass index over 30, there was no
 17 evidence with a trend for a relative risk of increased
 18 cross-categories of increasing body mass.
 19 Q So over 30, there is no increasing trend in
 20 both pre and post or --
 21 A Correct. So I think the answer is -- and I
 22 think this is one of the biggest studies of that issue.
 23 It does not appear that obesity is a major factor.
 24 Let's put it that way. It may contribute in
 25 some way, but it says among premenopausal, which is our

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<p>1 group, the relative risk decreased as the body mass 2 increased.</p> <p>3 Q Okay. Do you agree that age at menarche — 4 menarche is a risk factor?</p> <p>5 A Well, it has been mentioned. This particular 6 paper — let's see. Where does it talk about it?</p> <p>7 Risk according to menarche — menarche, those 8 that have menarche under 12, the relative risk was 1.4, 9 but it wasn't statistically significant. The relative 10 risk if they had menarche at the age of 11 to 12 was 11 2.1.</p> <p>12 Q Which is increased; right?</p> <p>13 A Which has increased.</p> <p>14 Q You are looking for a relative risk number of 15 one for it to be normal; correct?</p> <p>16 A Correct, but none of these are one. It is kind 17 of interesting. One has to wonder where — 13 to 14 the 18 relative risk is two, but above 15 it is one, so — but 19 it is rare to be over one.</p> <p>20 Of the total population, there is only 200 21 people out of 5,000 that had menarche over 15. So that 22 is not statistically significant because it is stayed 23 with small numbers. So none of these ages at menarche 24 in premenopausal women were at one. They were all 25 elevated.</p> <p style="text-align: right;">664</p>	<p>1 factor for breast cancer?</p> <p>2 A You know what, they did not study that in this 3 paper, and I have never heard about it being a risk 4 factor. So I don't know what the answer to that is.</p> <p>5 Q Now, the issue of smoking and breast cancer, is 6 it accurate to say that that remains somewhat 7 controversial?</p> <p>8 A Well, there is evidence. A number of studies 9 have found a link. And, in fact, there is even a study 10 that found a link with secondhand smoke. So I think the 11 evidence is building that cigarette smoke contributes to 12 the risk of breast cancer.</p> <p>13 Q All right. Well, do you agree that race is a 14 risk factor for breast cancer?</p> <p>15 A Yes. It is more common in white women than 16 black women. So it is — appears to be, as I had said 17 here, that women who have higher education levels and 18 other studies have shown that are more common in upper 19 middle-class women than in poor blacks.</p> <p>20 Q Does anybody have any notion for what the basis 21 for that is? Why would women who have more education 22 have a higher risk factor?</p> <p>23 A Higher incomes probably eat more fish and eat 24 more PCBs and dioxins.</p> <p>25 Q More fatty foods?</p> <p style="text-align: right;">666</p>
<p>1 Q All right.</p> <p>2 A So that is interesting and it holds up for 3 postmenopausal as well. The values are all 1 at 4 postmenopausal. So it appears to be that all of the 5 premenopausal women seemed to have a higher risk no 6 matter whether they were before 11, 11 to 12, 13 to 14, 7 the only ones that were not elevated were above 15.</p> <p>8 Q Do you agree that age at the first full-term 9 pregnancy is a risk factor of breast cancer?</p> <p>10 A Well, that is what this made — this one is all 11 about. It says, "Age of first birth," you know, that is 12 the other table here.</p> <p>13 Q All right.</p> <p>14 A And what it says is that if they have the baby, 15 first baby, under the age of 20, the risks are reduced.</p> <p>16 If they have the baby between 20 and 24, the 17 risk is at one across the board. One and 1.6 and 1.9, 18 similar to under 20.</p> <p>19 If it is between 25 and 29, the risk goes up 20 overall, and it is statistically significant. So having 21 the first baby after 25 raised the breast cancer to 1.7, 22 70 percent increase; and over 30, it is about the same. 23 1.8 is the relative risk.</p> <p>24 Q Do you think that age — strike that.</p> <p>25 So you agree that months of lactation is a risk</p> <p style="text-align: right;">665</p>	<p>1 A No. More fish.</p> <p>2 Q More fish.</p> <p>3 A Because the biggest source at this point for 4 all of the halogenated persistent organic pollutants is 5 fish.</p> <p>6 Q There is a series of studies done in the '80's, 7 I believe, in Michigan having to do with fish 8 consumption and dioxin. Have you reviewed those? Do 9 you know which studies I am talking about?</p> <p>10 A There was one study of Michigan, studying women 11 that ate more fish that was locally caught, wild fish, 12 not — not commercial fish. They were studying the 13 women who were eating the PCB laden fish — 14 (Telephonic interruption.)</p> <p>15 THE WITNESS: — out of the sport fishing 16 activities.</p> <p>17 BY MR. HOPP:</p> <p>18 Q Out of the Great Lakes?</p> <p>19 A Out of the Great Lakes.</p> <p>20 And there was — what I remember is that they 21 found elevated values. I don't remember if they studied 22 any of the disease outcomes. I have to rereview that.</p> <p>23 Q When you say that the fish consumption is a 24 major source of dioxin exposure, are you talking about 25 sport fish or commercially grade fish?</p> <p style="text-align: right;">667</p>

1 A Well, right now, it is both, especially
2 farm-raised salmon is quite high in dioxin and
3 dioxin-like compounds.
4 And there is -- also depending on the water
5 they come from -- sport fish, like the Santa Monica Bay
6 here, the fish are very high in PCB and dioxin. It used
7 to be signs on, it appears, "Do not eat the fish."
8 Somehow the health department exhibited the
9 wisdom to come and had taken those signs down; but they
10 are still here, like the Santa Monica Pier here, there
11 is a little, tiny sign that you can barely read that
12 says, "Don't eat the fish."
13 Q Sure. We got the same problem in Lake
14 Michigan. Depending on whether you were pregnant or of
15 a certain age and that had to do with --
16 A Mercury. Mercury. That was mercury. Mercury
17 is another contaminate in fish and it is a major issue
18 for pregnant women.
19 Because if you do eat three fish meals a week,
20 you have a risk to have enough high level to impact your
21 offspring.
22 Q Do you agree that the use of hormonal
23 contraceptives is a risk factor for breast cancer?
24 A I believe it is, yes.
25 Q Do you agree that the use of hormone

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1 replacement therapy is a risk factor for breast cancer?
2 A Yes, it is.
3 Q Are cancer rates in Mississippi the highest in
4 the nation?
5 A I have got a paper here by me that talks
6 about --
7 Q By who?
8 A By me. I think the guy's name is Mitra. He is
9 a Mississippi research guy. Let me see what he says.
10 Q Which list is it in?
11 A The breast cancer list. Breast cancer in
12 Mississippi. Anyways, he went to each county and looked
13 at county incidents versus state incidents. Incident
14 rates of female breast cancer in Mississippi in 82
15 counties is 61.2 per 100,000 in 1996.
16 Q That's state-wide?
17 A That's state-wide. Whites were higher by a big
18 factor, more so than blacks or non-whites, which is
19 mainly blacks.
20 And there are certain high risk counties in
21 Mississippi that correlated with pollution. Six
22 counties had rates 40 percent higher than the state
23 rate. And those six counties are listed here. He did
24 not include Grenada County.
25 Q Where did Grenada County stack up in terms --

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1 as part of the state?
2 A It is part of the lower ones. It is the white
3 state, which means the rate is significantly lower than
4 the state rate, and it has not been increasing.
5 Q You said, "It is a white state." You mean a
6 white county?
7 A A white county, correct.
8 MR. PRUDHOMME: I think he is talking about the
9 shaded areas.
10 THE WITNESS: The shaded -- the dark ones are
11 the counties with the highest rates. They have a
12 40 percent or more increase in breast cancer and the
13 white states have shown no increase.
14 BY MR. HOPP:
15 Q Again, you mean white counties? You keep
16 saying, "States."
17 A I mean counties.
18 Q Okay.
19 A I'm sorry. And the maximum air pollution
20 levels correlated with the rates.
21 In other words, if the county had more
22 pollution based upon its toxic release inventory, it had
23 higher rates. Grenada, again, was not one of the
24 states -- one of the counties with the higher rate.
25 Q So to summarize then, based on the paper you

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1 are reading -- which, again, can you give me the
2 author's name?
3 A Mitra, M-i-t-r-a.
4 Q Okay. Based on the Mitra paper, whites in
5 Mississippi have a higher risk of breast cancer than
6 blacks; correct?
7 A Yes. Yes. The white rate is 1.8 or 61.4 per
8 100,000. The non-white is 52.3 per 100,000.
9 Q Does the Mitra paper discuss at all where
10 Mississippi ranks in terms of the 50 states as far as
11 cancer incidents is concerned?
12 A I thought he had mentioned that here. Let me
13 go down to the Discussion and see.
14 No, I -- I don't -- I don't think he mentions
15 that whether they are lower than the rest of the country
16 or not.
17 Q Are you aware of any reference that discusses
18 where Mississippi ranks among the 50 states in terms of
19 cancer incidents at all sites?
20 A I did not remember Mississippi being the
21 highest state rate for cancer overall. I remember that
22 Louisiana and New Jersey had the higher rates than
23 Mississippi, but that's just my recollection. I didn't
24 research that question.
25 Q Do you have -- do you have any recollection of

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